



University of
Sistan and Baluchestan



Association of Geography
and Planning
of Border Areas of Iran

Identifying the Factors Influencing the Planning and Design of Age-Friendly City (Case Study: Tabriz Metropolis)

Karim Hosseinzadeh Dalir^{1✉}, Ramin Pishnamaz Ahari²

1. Professor, Department of Geography and Urban Planning, Marand Branch, Islamic Azad University, Marand, Iran.
✉ E-mail: karimhoseinzadeh6@gmail.com
2. MA Student, Department of Geography and Urban Planning, Tabriz Branch, Islamic Azad University, Tabriz, Iran.
E-mail: r.pishnamaz.1372@gmail.com

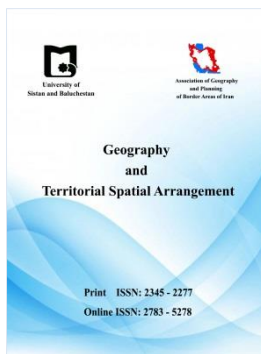


How to Cite: Hosseinzadeh Dalir, K & Pishnamaz Ahari, R. (2023). Identifying the Factors Influencing the Planning and Design of Age-Friendly City (Case Study: Tabriz Metropolis). *Geography and Territorial Spatial Arrangement*, 13 (46), 33-38.

DOI: <http://dx.doi.org/10.22111/GAII.2023.43471.3060>

Article type:
Research Article

Received:
16/09/2022
Received in revised form:
29/10/2022
Accepted:
26/11/2022
Publisher online:
11/03/2023



ABSTRACT

The global population pattern has a growing trend towards aging and it is necessary to ideally plan and design urban spaces, structures and services with the elderly in mind. In this regard, in 2006, the World Health Organization proposed 8 key indicators as the necessities of an elderly-friendly city, which requires the planning and design of cities in line with the realization of these indicators. Considering the importance of realizing age-friendly city in today's era, the purpose of this research is to identify the factors influencing the planning and design of age-friendly city in Tabriz metropolis. The research method in the current study is quantitative with an applied-developmental nature, in order to analyze the data, partial least squares model was used in Warp-PLS software. The statistical population of the research also includes managers, officials and urban experts of Tabriz (about 1500 people) and the sample size is estimated to be 340 people based on the modified model of Cochran. The findings of the research show that the most effective in the realization of age-friendly city in Tabriz is in the planning dimension related to the components of the integrated planning and management system and institutional coordination and participation, and in the design dimension related to the components of the elderly-friendly body and transportation, respectively, the coefficients extracted based on The structural model of the research was 0.76, 0.68, 0.62 and 0.57 for each. Also, the results indicate that benefiting from inclusive views of urban spaces such as Bankzon's, Goldsmith's, and social design is an inevitable necessity for the realization of age-friendly city in Tabriz.

Keywords:

Urban planning, Urban design, Age-friendly city, Tabriz metropolis.



© the Author(s).

Publisher: University of Sistan and Baluchestan

Extended Abstract

Introduction

Globally, the population is aging, and given that the majority of people now live in urban areas, it will be easier to predict the future of population aging and plan for it. In general, it can be said that aging is a biological process and not a disease, it is a vital phenomenon that gradually covers everyone. According to the assessment of the United Nations Population Unit, the aging population trend is expanding and it is predicted that the elderly population in developing countries such as Iran, Saudi Arabia, Kuwait and China will have an extraordinary speed and the number of elderly people will reach two billion people in 2050. In this regard, aging and urbanization, due to their mutual influence on each other, is considered one of the important axes of study and planning to increase the quality of life of the elderly in the city. Therefore, identifying the factors influencing the realization of elderly-friendly cities is an inevitable necessity, and the need to plan and design this type of city with an integrated and systemic perspective and considering different dimensions is felt. Therefore, considering the aging of the population in urban areas and the importance of realizing an elderly-friendly city, the aim of the current research is to identify the factors influencing the design and planning of an elderly-friendly city in Tabriz metropolis. The aging trend of the population in Tabriz metropolis indicates that in 2015, 7.26% (113,110 people) of the population of 1,558,693 people of this city were in the age group of 65 years and above.

Study Area

Tabriz is the capital of East Azarbaijan province, the largest city in northwestern Iran and the administrative, communication, commercial, political, industrial, cultural and military hub of this region. This city is located at 41 degrees and 25 minutes of east longitude and 38 degrees and 2 minutes of north latitude from the source of the meridian, and its average height above the open water level is about 1340 meters. Also, this city with a population of 1,773,033 people based on the general population and housing census of 2015 is the sixth most populated city in Iran after Tehran, Mashhad, Isfahan, Karaj and Shiraz.

Material and Methods

The research method in the current research is quantitative with an applied-developmental nature. This research seeks to develop practical knowledge in order to identify the factors that influence the planning and design of an elderly-friendly city in Tabriz metropolis, on the basis of which the managers, officials and experts of Tabriz were questioned (it should be noted that the statistical population is about 1500 people) and the obtained information has been analyzed using partial least squares model in Warp-PLS software. Regarding the determination of the sample size, the special rules of the partial least squares method (the model used in this research) have been followed. According to the rule of the partial least squares model and considering that some of the collected questionnaires may have heterogeneous and unreliable data, the sample size was 383 using Cochran's formula, which was reduced to 340 using Cochran's modified formula. It should be mentioned that the method of accessing the statistical sample size is based on the snowball pattern.

Result and Discussion

The findings of the research show that the most effective factor in the realization of age-friendly city in Tabriz is in the planning dimension related to the components of the integrated planning and management system and institutional coordination and participation, and in the design dimension related to the components of the elderly-friendly body and transportation, respectively, the coefficients extracted based on The structural model of the research was 0.76, 0.68, 0.62 and 0.57 for each. Also, the results indicate that benefiting from inclusive views of urban spaces such as Bankzon's, Goldsmith's, and social design is an inevitable necessity for the realization of age-friendly city in Tabriz.

Conclusion

In fact, the elders are considered to be part of the most vulnerable sections of any society, and if urban spaces are adapted for the elders; while providing the needs and peace of this valuable class, other sections of the society will also benefit from its benefits. The results of the current research indicate that Tabriz metropolis has major shortcomings in various dimensions in order to realize an elderly-friendly city. The physical-spatial structure of the city and the way the spaces are combined show that the legibility design and perception of spaces and their human scale have been neglected according to different age groups. The activity structure of different spaces of the city also has fundamental weaknesses in different dimensions of social network, vitality,

encouraging factor of presence in the space, variety and providing services in order to guarantee a suitable social life for the elderly. Also, the examination of the key indicators of the elderly-friendly city in Tabriz metropolis shows that the open spaces and buildings are somewhat consistent with the criteria of the elderly city, and the use of suitable flooring in open spaces and sloping surfaces in buildings can meet the needs of the elderly. In terms of housing, in Tabriz metropolis and other cities of Iran is not in a good condition, and the provision of housing for the elderly has not been realized. Social participation is one of the other indicators of an elderly-friendly city, which is rarely visible due to the traditional and technocratic management system. Respecting the elderly and their social inclusion has been realized to some extent in Tabriz metropolis, and proper culture building in this area is an inevitable necessity. Also, in other aspects of the elderly-friendly city, i.e. employment and civic participation, information and communication, social support and health services, Tabriz metropolis is not in a favorable situation.

Key words: Urban planning, Urban design, Age-friendly city, Tabriz metropolis.

References (Persian)

Adib Roshan, F., Talebpour, M., Peymanizad, H., & Pourezzat, A.A. (2020). Identifying the coordinates of the elderly-friendly city in Iran 2050. *Vision of future cities*, 1(2), 51-61.

<https://jvfc.ir/article-1-43-fa.html>

Development and construction plan of Tabriz "Comprehensive". (2016). Environmental consulting engineers, Ministry of Roads and Urban Development, General Department of Roads and Urban Development of East Azarbaijan province.

<http://nmoheet.com/FA>

Gholami, M., Amininejad, G., & Banari, K. (2022). Measuring and evaluating the indicators of the elderly-friendly city (case study: Barazjan city). *Planning and development of urban environment*, 2(5), 17-30.

https://jupep.shiraz.iau.ir/article_689441.html

Sharghi, A., Zarghami, E., Salehi, F., & Olfat, M. (2016). Assessing the status of global indicators of the elderly-friendly city in Tehran metropolis (AFC). *Urban and regional studies and researches*, 8(28), 1-22.

https://urs.ui.ac.ir/article_20537.html

Zarghami, S.H., Kharazmi, O., & Johari, L. (2015). Evaluating Spatial – Physical indicators in Mashhad to become “Age-Friendly” City. *Geography and territorial spatial arrangement*, 5(15), 177-196.

https://gajj.usb.ac.ir/article_2078.html

References (English)

Abril-Jimenez, P., Rojo Lacal, J., de los Rios Perez, S., Paramo, M., & Arredondo Waldmeyer, M. T. (2019). Ageing-friendly cities for assessing older adults’ decline: IoT-based system for continuous monitoring of frailty risks using smart city infrastructure. *Aging Clinical and Experimental Research*, 32, 663-671.

DOI: [10.1007/s40520-019-01238-y](https://doi.org/10.1007/s40520-019-01238-y)

Ball, S., & Lawler, K. (2014). Changing practice and policy to move to scale: A framework for age-friendly communities across the United States. *Journal of Aging & Social Policy*, 26, 19–32.

DOI: [10.1080/08959420.2014.856706](https://doi.org/10.1080/08959420.2014.856706)

Benktzon, M. (1993). Designing for our future selves: the Swedish experience. *Applied Ergonomics*, 24(1), 19-27.

[https://doi.org/10.1016/0003-6870\(93\)90155-3](https://doi.org/10.1016/0003-6870(93)90155-3)

Biggs, S., & Carr, A. (2015). Age- and child-friendly cities and the promise of intergenerational space. *Journal of Social Work Practice*, 29(1), 99–112.

DOI: [10.1080/02650533.2014.993942](https://doi.org/10.1080/02650533.2014.993942)

Buckner, S., Pope, D., Mattocks, C., & Lafortune, L. (2019). *Developing Age Friendly Cities: An Evidence-*

- Based Evaluation Tool. *Journal of Population Ageing*, 12(2), 203-223.
DOI: [10.1007/s12062-017-9206-2](https://doi.org/10.1007/s12062-017-9206-2)
- Buffel, T., & Phillipson, C. (2016). Can global cities be 'age-friendly cities'? Urban development and ageing populations. *Cities*, 55, 94–100.
<https://doi.org/10.1016/j.cities.2016.03.016>
- Buffel, T., & Phillipson, C. (2018). A manifesto for the age-friendly movement: developing a new urban agenda. *J Journal of Aging & Social Policy*, 30, 173–192.
DOI: [10.1080/08959420.2018.1430414](https://doi.org/10.1080/08959420.2018.1430414)
- Buffel, T., Handler, S., Phillipson, C. (Eds.). (2019). *A Global Perspective, Age-friendly Cities and Communities*. Policy Press, Bristol, UK.
<https://www.jstor.org/stable/j.ctt1zrvhc4>
- Buffel, T., Philipson, C., & Schare, T. (2012). Ageing in urban environments: Developing, age friendly cities. <http://www.sagepublications.com>. Pp.116-143.
- Chao, T.-Y.S. (2018). *Planning for greying cities, Age-friendly City Planning and Design Research and Practice*. Routledge - Taylor & Francis Group, Abingdon, UK.
<https://www.routledge.com>
- Chaudhury, H., Oswald, F. (2019). Advancing understanding of person-environment interaction in later life: one step further, *Journal of Aging Studies*, 51, 100821.
<https://doi.org/10.1016/j.jaging.2019.100821>
- Colnar, S., Dimovski, V., & Bogataj, D. (2021). Review of Telecare in Smart Age-Friendly Cities. *IFAC-PapersOnLine*, 54(13), 744-749.
<https://doi.org/10.1016/j.ifacol.2021.10.541>
- Dye, C. (2008). Health and urban living. *Science*, 319, 766–769.
DOI: [10.1126/science.1150198](https://doi.org/10.1126/science.1150198)
- Flores, R., Caballer, A., & Alarcón, A. (2019). Evaluation of an Age-Friendly City and Its Effect on Life Satisfaction: A Two-Stage Study. *Int J Environ Res Public Health*, 16(24), 1-13.
DOI: [10.3390/ijerph16245073](https://doi.org/10.3390/ijerph16245073)
- Goldsmith S. (2000). *UNIVERSAL DESIGN A Manual of Practical Guidance for Architects*. Architectural Press, New York.
https://archive.org/details/UNIVERSAL_DESIGN
- Handler, S. (2019). Chapter 11, Alternative age-friendly initiatives: redefining age-friendly design. In: T. Buffel, S. Handler, C. Phillipson (Eds.), *Age-friendly Cities and Communities. A Global Perspective*, Policy Press, Bristol, UK, 2019, pp. 211–229.
<https://www.architecture.com>
- Hanson, J. (2004). *The Inclusive City: delivering a more accessible urban environment through inclusive design of the Built Environment*. Torrington Place Site University College, London.
<https://www.researchgate.net/publication/316236517>
- Henseler, J., Ringle, C. M., and R, R, Sinkovics, (2009). The use of partial least squares path modeling in international marketing, *Advances in International Marketing*, 20, pp: 277-320.
[https://doi.org/10.1108/S14747979\(2009\)0000020014](https://doi.org/10.1108/S14747979(2009)0000020014)
- Imrie, R. (2000). Responding to the Design Needs of Disabled People. *Journal of Urban Design*, 5(2), 199-219.

DOI: [10.1080/713683959](https://doi.org/10.1080/713683959)

Joy, M. (2018). Problematizing the age friendly cities and communities program in Toronto. *Journal of Aging Studies*, 47, 49–56.

<https://doi.org/10.1016/j.jaging.2018.10.005>

Joy, M., Marier, P., & Séguin, A.-M. (2020). Age Friendly Cities: A panacea for aging in place? In V. Billette, P. Marier, & A-M Séguin (Eds.). *Getting Wise about Getting Old: Debunking Myths about Aging* (pp. 64–72). Vancouver: University of British Columbia Press.

<https://www.ubcpres.ca/>

Kendig, H., Elias, A. M., Majwijiw, P., & Anstey, K. (2014). Developing age-friendly cities and communities in Australia. *Journal of Aging and Health*, 26(8), 1390–1414.

DOI: [10.1177/0898264314532687](https://doi.org/10.1177/0898264314532687)

Lai, M.M., Lein, S.Y., Lau, S.H., & Lai, M.L. (2016). Modeling Age-Friendly Environment, Active Aging, and Social Connectedness in an Emerging Asian Economy. *Journal of aging research*. 2016; 2016:2052380.

DOI: [10.1155/2016/2052380](https://doi.org/10.1155/2016/2052380)

Livingston, A. (2008). *Disability Policy and Practice*. At the University of Saskatchewan.

<http://hdl.handle.net/10388/etd-06242008-104333>

Lui, C.W., Everingham, J.A., Warburton, J., Cuthill, M., Bartlett, H. (2009). What makes a community age-friendly: A review of international literature. *Australasian journal on ageing*, 28(3), 116-21.

DOI: [10.1111/j.1741-6612.2009.00355.x](https://doi.org/10.1111/j.1741-6612.2009.00355.x)

Marston, H.R., Shore, L., White, P. (2020). How does a (smart) age-friendly ecosystem look in a post-pandemic society? *International journal of environmental research and public health*, 17(21), 8276.

<https://doi.org/10.3390/ijerph17218276>

Moulaert, T., & Wanka, A. (2019). Benches as Materialisations of (Active) Ageing in Public Space: First Steps towards a Praxeology of Space. *Urban Planning*, 4 (2), 106-122.

<https://hal.archives-ouvertes.fr/hal-02176679>

OECD. (2015). *Ageing in Cities*. OECD Publishing, Paris, France.

<https://www.oecd.org/>

Organization WHO. (2007a). *Age-friendly cities project methodology: Vancouver protocol*. Geneva; 2007.

<https://www.health.gov.bc.ca/>

Organization WHO. (2007b). *Global age-friendly cities: A guide*: World Health Organization; 2007.

<https://www.health.gov.bc.ca/>

Peng, S., & Maing, M. (2021). Influential factors of age-friendly neighborhood open space under high-density high-rise housing context in hot weather: A case study of public housing in Hong Kong. *Cities*, 115, 1-14.

<https://doi.org/10.1016/j.cities.2021.103231>

Plouffe, L., & Kalache, A. (2010). Towards global age-friendly cities: determining urban features that promote active aging. *Journal of Urban Health*, 87, 733–739.

DOI: [10.1007/s11524-010-9466-0](https://doi.org/10.1007/s11524-010-9466-0)

Skinner, M.W., Andrews, G.J., Cutchin, M.P. (2018). Introducing geographical gerontology, in: M.W. Skinner, G.J. Andrews, M.P. Cutchin (Eds.), *Geographical Gerontology. Perspectives, Concepts, Approaches*, Routledge, London, UK, 2018, pp. 3–10.

<https://www.Routledge.com>

Van Hoof, J., Kazak, J.K. (2018). Urban ageing. *Indoor Built Environ*, 27, 583–586.

<https://doi.org/10.1177/1420326X18768>

Van Hoof, J., Kazak, J.K., Perek-Białas, J.M., & Peek, S.T.M. (2018). The challenges of urban ageing: making cities age-friendly in Europe. *Int. J. Environ. Res. Publ. Health*, 15, 1-15.

<https://doi.org/10.3390/ijerph15112473>

Van Hoof, J., Marston, H.R., Kazak, J.K., & Buffel, T. (2021). Ten questions concerning age-friendly cities and communities and the built environment. *Building and Environment*, 199, 1-26.

<https://doi.org/10.1016/j.buildenv.2021.107922>

Winterton, R. (2016). Organizational responsibility for age-friendly social participation: Views of Australian rural community stakeholders. *Journal of Aging & Social Policy*, 28(4), 261–276.

DOI: [10.1080/08959420.2016.1145504](https://doi.org/10.1080/08959420.2016.1145504)

Wynants, M. (2009). In *Sickness and in Health: The Future of Medicine: Added Value and Global Access*. Brussel, Belgium: ASP - Academic and Scientific Publishers; 1 edition (September 1, 2009).

<https://www.amazon.com/>